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RANGZHIN



Inspiring personal responsibility for environmental conservation since 1987

RSPN Bi-annual Newsletter | Vol. 15, Issue 1 | June 2022

Inside this Issue

In the News	Pg. 2
Project Updates	Pg. 3
Strengthening Species Conservation	Pg. 8
Completed Projects	Pg. 17
Inspiring personal responsibility for environmental conservation	Pg. 19
Stories from the field: Enhancing the livelihoods of the communities	Pg. 20

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We have over 2,000 members across the world supporting our conservation works. Keeping our mission at the core, the membership platform is another great way to inspire and get people on board to support our cause.

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Greetings from RSPN

Warm greetings to our donors, partners, members, and supporters in Bhutan and across the globe!

Once again, we are delighted to share with you our Bi-annual Rangzhin newsletter (Volume 15, Issue 1), packed with information and interesting news. As we leverage innovative ideas and solutions with the inclusive effort of engaging different stakeholders, we are continuously expanding our reach and heightening the efforts to sustain the environmental conservation in Bhutan. We believe these innovative ideas and efforts are heard for the benefit of the public through this publication.

This issue, in particular, highlights RSPN's progress on species conservation and livelihood programs and donor and partnership-supported project updates, besides bringing in some inspiring field stories from the people that we live and work together with.

As we close this message, with the same spirit of appreciation, RSPN extends our respect and highest regard to the donors and partners, and collaborators for the unwavering support and partnership to help grow ourselves from strength to strength.

We wish you all happy reading!

RSPN Team

Rangzhin is RSPN's bi-annual newsletter started in 2003. It is one of the communication tools to garner support for the organization. Through this platform, we inform, educate, engage and connect with our friends across the world.

In the News

► Commemorating the 32nd Birth Anniversary of Her Majesty The Gyaltsuen

On the auspicious occasion of the 32nd Birth Anniversary our beloved Royal Patron, Her Majesty The Gyaltsuen Jetsun Pema Wangchuck, RSPN joined the nation in offering our heartiest prayers for Her Majesty's well-being, good health, and happiness.

In commemoration of the Birth Anniversary, RSPN launched the Institutional video as a humble tribute to Her Majesty's selfless support and leadership in environmental conservation.

Under the Royal Patronage of Her Majesty, RSPN has been able to strongly complement the efforts of the Royal Government of Bhutan in upholding the nation's goal on the conservation front. The event was graced by our Hon'ble Chairperson and the Eminent Board of Directors.



RSPN Board Chair and Executive Director at the cake cutting ceremony

► RSPN contributed binoculars to the Department of Forests and Park Services (DoFPS)

Since the establishment of RSPN, DoFPS has been an ardent supporter of RSPN's initiatives. To further strengthen the conservation and enhance monitoring of critical species such as the White-bellied Herons and the Black-necked cranes, RSPN contributed 90 Nikon Prostaff binoculars to the Department. These binoculars were procured through the "Developing Ecosystem-based solutions for Managing Biodiversity Landscapes in Bhutan" project supported by the Federal Ministry for Environment, Nature

Conservation and Nuclear Safety (BMU), Germany through the International Climate Initiative. The project is also co-funded by MAVA Foundation in Switzerland.

90

Nikon Prostaff binoculars contributed to DoFPS



RSPN team with the officials of DoFPS

Project Updates

► Ecosystem and Socio-economic Resilience Analysis and Mapping (ESRAM): An integrated adaptation planning approach/tool

Norbu Wangdi, PhD

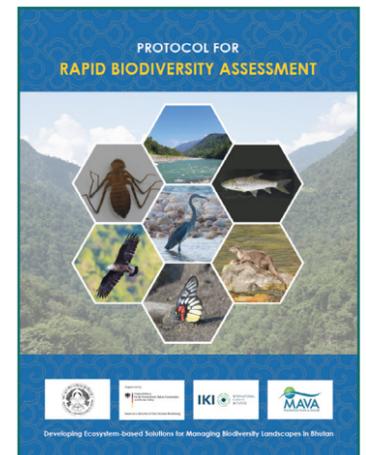
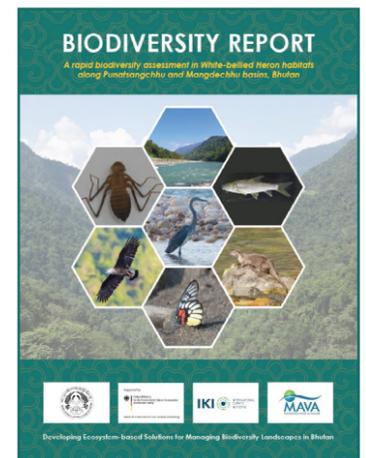
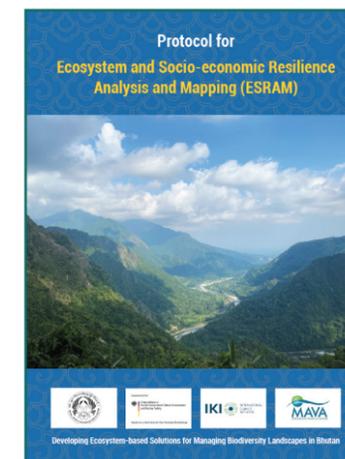
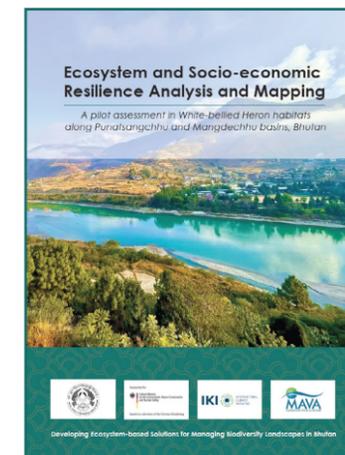
The Ecosystem and Socio-economic Resilience Analysis and Mapping (ESRAM) is a robust planning approach to inform the design and selection of tailored climate change adaptation interventions using the Ecosystem-based Approach (EbA).

ESRAM will mainly assess and integrate climate, ecological, social, economic, cultural, political, and institutional factors with the aim to enhance our understanding of the linkages between socio-economic and ecological systems and processes in the context of climate change. ESRAM focuses on analyzing and mapping resilience linked to the ecosystem and socio-economic systems taking into account existing trends and climate impacts. The Ecosystem & Socio-economic Resilience Analysis and Mapping (ESRAM) is a component of the "Developing Ecosystem-based solutions for Managing Biodiversity Landscapes in Bhutan" a five-year project funded by the Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU), Germany through International Climate Initiative (IKI) with co-funding from MAVA Foundation, Switzerland and the Royal Society for Protection of Nature (RSPN) to explore and promote ecosystem-based approaches and tools for the protection and managing of White-bellied Heron (WBH) habitats along the Punatsangchhu and Mangdechhu basins in Bhutan.

Based on the ESRAM results, specific recommendations for the ecosystem-

based adaptation measures and intervention activities for restoring WBH habitat and improving community livelihoods are identified. ESRAM assessment will provide baseline information on the ecosystem and biodiversity, socio-economic conditions, and climate vulnerability of the WBH habitats.

Through this project, RSPN aims to introduce the ESRAM approach as an integrated planning tool for enhancing biodiversity conservation and management in Bhutan.



Click to the book jackets to download the e-copy

► **Enhancing climate resilience through gender responsive agro-ecological farming, provision of agriculture tools and developing marketing linkages**

Tsheten Dorji

RSPN is executing a project on "Enhancing Climate Resilience through Gender Responsive Agro-Ecological Farming, Provision of Agricultural Tools and Developing Marketing Linkages in Bardo Gewog, Zhemgang" since September 2021. The project is supported by Canada Foundation/Canada Fund for Local Initiatives (CFLI) with the goal to strengthen community resilience to climate change and contribute to COVID 19 pandemic recovery by promoting environmentally, socially, and ecologically sound agriculture. The objectives of the project are:

- » To improve agricultural soil and water conservation for sustainable farming and food production.
- » To enhance resilience and efficiency in agriculture production through technology transfer and product diversification.
- » To improve the market for agriculture produce through appropriate approaches and mechanisms.

To achieve the above-mentioned goal and objectives of the project, and to impart the benefits to the rural communities, the following activities are initiated in two Chiwogs (sub-blocks/villages) of Langdurbi and Phulabi during the first year of the project.

Rapid assessment and mapping of watersheds/springsheds

The project conducted a rapid assessment and mapping of watersheds/springsheds in Langdurbi and Phulabi Chiwogs (project sites) with technical backstopping and

in partnership with Zhemgang Forest Division. The rapid assessment was conducted in 39 water sources. The assessment helps in understanding the health of watershed/spring sheds in the project area for further conservation interventions. The assessment found out that although no watershed in two Chiwogs is found to be critically degraded, few areas around water sources were found to be disturbed and require necessary intervention to prevent further deterioration.

Formation of women/farmers group

As a self-help mechanism for improving women's livelihoods through agriculture, the project established two women/farmers' groups in Phulabi and Langdurbi villages. Phulabi enlisted 18 members consisting of 15 female and three male members. Similarly, Langdurbi enlisted 60 members consisting of 44 female and 16 male members respectively.

The project also framed a group by-laws/management guideline for day-to-day coordination, management, and information sharing. In addition, with the objective to establish marketing mechanisms for agriculture products, the project with support from Bardo Gewog Agriculture Extension framed a draft marketing plan for the two farmers/women groups.

Training on Sustainable Agriculture and Land Management

As part of the capacity building, training on sustainable agriculture and land management was conducted for 19 farmers in Phulabi and 61 farmers in Langdurbi. Of the total 80 participants from two project sites, 58 women participated in the training. The farmers were sensitized on the importance and benefits of practicing sustainable agriculture and land management in a slopy/terrain topography. To enhance the technical skills, the farmers were given hands-on training on basic land

management techniques such as stone bunding using A-frame, a simple method for making contours in the sloppy areas. Other land management techniques included regular stone bunding, check dams and plantation of Napier grass for terracing.

Training on organic agriculture

The farmers were sensitized and educated on the importance and benefits of practicing organic agriculture. To enhance their technical skills, the farmers were provided practical training on preparing liquid manure and organic pesticides using locally available materials, preparing heap compost using dry and green organic matter, soil, and cow dung slurry.

The farmers were also taught the techniques of multi/mixed and sister cropping to enhance the annual production and improve soil fertility. Additionally, farmers were also taught the techniques of simple low-cost vegetable seedling production using a mini poly house (plastic and bamboo stocks), easily replicable by the farmers. And as a part of the above activity and to capacitate the groups to efficiently manage and organize themselves, basic training on book-keeping and stock registration was provided. The training will enable the farmers to keep records of vegetable and dairy products sold to the local vendors and records of the stock received.

Provision of agricultural and water conservation facilities

To enhance agriculture production, the project has procured facilities such as four sets of prefabricated Green-house with Arc Poles, 10 sets of Plastic Film for low-cost Green-house, 10 rolls of UV-resistance Green-net, 240 kilograms of mustard seeds, and 12 varieties of vegetable seeds (pole bean, bitter gourd, cabbage, broccoli, cauliflower, Indian chili, tomato, brinjal, onion, bunching onion, coriander, and mustard green) with 110 packets each. The agricultural facilities

are for the two groups while vegetable seeds are for the groups and individual households with the objective to produce both for self-consumption and sale.

To promote water-efficient technologies for small-scale water conservation, the project has procured facilities such as 4 sets of Drip Irrigation, 4 sets of Water sprinkles, 4 numbers of Sintex tanks (500 liters), 94 pieces of flexible pipes (30 meters length). The facilities are provided to the two women/farmer's groups in Phulabi and Langdurbi. And as a follow-up action to the watershed and springshed assessment carried out last year, the project has procured essential materials for the protection of at least 2 water sources/spring sheds in two project sites. The materials consisted of 10 rolls of barbed wire, around 5 native species of plants, and fencing posts. The

protection activities will be initiated in the coming months in collaboration with Zhemgang Forest Division and beneficiary communities. In the process of activity implementation, the project also benefited partners who were involved in the activities.

Engagement of the partners as trainers and resource persons has helped enhance and refresh their professional skills in various fields such as organic agriculture, land management, watersheds/springsheds assessment, and so forth. The activities implemented will also help complement the government's effort to meet their objective in agriculture enhancement and food sufficiency which has been a priority in the face of pandemics. The activities were initiated between October 2021 to February 2022, and the project will end in February 2023.

39

Water resources conducted for rapid assessment and mapping of watersheds/springsheds

80

Farmers trained on Sustainable Agriculture and Land Management

78

Members enlisted for Women or Famers group



Farmers of Langdurbi and Phulabi Chiwogs at the Sustainable Land Management training

► **Integrated Community-based wetland and agricultural land conservation and capacity building of communities**

Tsheten Dorji

Background

The Royal Society for Protection of Nature and Dechheling Gewog with technical backstopping by the RGoB are executing a project on "Improving wetland and agricultural land through integrated community-based land and water conservation innovations at Dechheling Gewog". The project is supported by GEF-Small Grants Programme, UNDP Bhutan.

Activities

As a part of the project program, the following activities were conducted jointly by RSPN and Dechheling Gewog in early from April 11 to 19, 2022 at Nganglam Dechheling.

Review of conservation guideline and hands-on-training

To improve the protection of Peling-Tso and to sustain wetland ecosystem services, the project has formed a Peling-Tsho Conservation Group in 2021 and developed a Conservation Guideline. Peling-Tsho Conservation Group reviewed the conservation guideline drafted by RSPN and endorsed. The guideline will be used while planning and implementing Peling-Tsho conservation programs in the future.

Considering the importance of sustainable and efficient management of Peling-Tsho Conservation Group in Dechheling Gewog and to function as a Community-based Organization (CBO) in the future, the members were also provided hands-on training in cooperative management, action planning, basic book and record keeping. With these hands-on trainings, the Peling-Tsho Conservation Group members will be able to understand the importance of community unity and cooperation, the traditional social

networks, and enable them to plan and keep records of agri-products sold, and maintaining transparency and accountability.

Importance of roof-top rainwater harvesting and Zabo systems

Access to sufficient and clean drinking water is a major problem in Dechheling Gewog mainly attributed to the loss of forest cover and watersheds. Rainwater is the main source for Peling-Tsho wetland and for drinking; thus, it is very important to trap rainwater for recharging of Peling-Tsho wetland and nearby springs. From this context, the farmers were taught and encouraged to practice the 'Zabo and Roof-top Rainwater Harvesting Systems', simple and effective techniques to trap the rainwater. Zabo system measuring four meters square with one meter depth was constructed in Kholomri for a demonstration to farmers.

Also, one unit Roof-top Rainwater Harvesting System was installed in a farmer's house at Martsala village for a demonstration. The establishment of Zabo and Roof-top Rainwater Harvesting Systems by the communities will help in recharging groundwater and overcoming water shortages for household use and agriculture. Additional units of Zabo systems will be constructed around the Peling-Tso wetland and identified households in Gonpawong and Kholomri Chiwogs will install roof-top rainwater harvesting systems in the coming months.

Sustainable Land Management (SLM)

For the SLM component, the farmers were briefed on the importance of sustainable land management and its techniques such as stone bunding and hedgerow plantation for terracing using A-frame, a simple method for making contours in the sloped areas.

Two layers of stone bunding and hedgerow plantation using Napier grass measuring 25 meters in length and half meters in height were constructed in one of the

farmer's field in Kholomri. The structures were constructed for demonstration purpose. The practice of sustainable land management by the communities will enable the control of sedimentation to the wetland and retain soil fertility in the long run. Identified farmers will be constructing the structures in their individual farmlands in the coming months with technical backstopping from the Gewog Agriculture Extension Center.

Organic agriculture and its techniques

The farmers were briefed on the concepts, a goal, benefits, various techniques, and certification processes of organic agriculture.

Preparation of liquid manure and heap compost

Pest infestation is one of the major challenges faced by farmers in Bhutan. As a part of pest management, the farmers were taught about the preparation of simple liquid manure and organic pesticides using locally available materials. The farmers also practically demonstrated the preparation of garlic pests with a mixture of garlic and cow urine, and liquid manure using green biomass (Artemisia) mixed with cow dung and urine. To counter the declining fertility of soil, a simple measure to retain soil fertility were taught such as composting.

Importance of crop rotation and multi/mixed-cropping

Some farmers in the project area still practice mono-cultivation of the crop in a season. Considering the importance of food sufficiency, better harvest, and pest and soil fertility management, the farmers were taught the importance of crop rotation, mixed cropping, and sister/companion cropping. The practice of crop rotation, mixed cropping, and sister/companion cropping will not only gain the annual harvest but also improve soil fertility. Examples of such cultivation techniques include the plantation of maize with other legume plants such as peas and beans.



Women of Dechheling Gewog in the farm

Commercial vegetable production and new farming technology

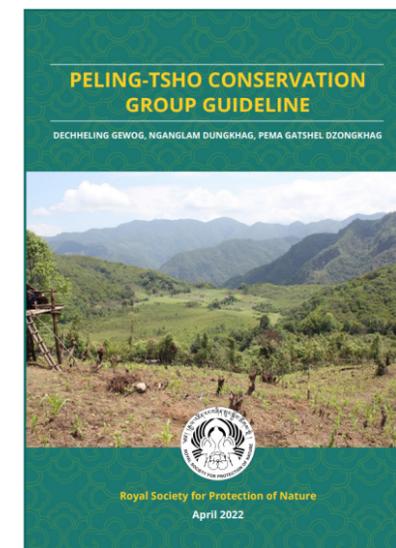
Dechheling being located in the subtropical climatic zone, there is a great potential for commercial production of winter vegetables. In this context, the farmers were taught about the importance of identifying niche products such as mass production of Chilli, Ginger, Soya Bean, and other vegetables and fruits, which have a longer shelf life and high demand in the market during the winter season. Further, to enhance agriculture productivity through organized and improved production technologies, small-scale enterprise development, and value chain development, the importance of having a marketing plan was explained to the farmers.

Conduct second round bird survey and basic bird watching

Dechheling Gewog, having rich biodiversity and a distance of only an hour's drive from Nganglam town, has a good scope in eco-tourism. To prepare for

this, a second round of bird survey was conducted to document the bird species. From the two rounds of surveys carried out, more than 100 bird species were recorded from the area. In addition, the farmers from the community and students were taught the basic importance of bird watching and eco-tourism components.

The activities are successfully implemented in consultation and with technical backstopping from Dechheling Gewog Administration, RNR Extension Center Officers (Forestry, Agriculture and Livestock), and Pema Gatshel Forest Division. Mr. Jimpa Phuntsho, Gup of Dechheling Gewog expressed his highest gratitude to RSPN, RGoB and GEF-SGP, UNDP for supporting the project to his Gewog. Therefore, the program has really benefited him and his communities in understanding the shared responsibility and enhanced skills for the conservation of the natural ecosystem and place they resided for generations.



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Strengthening Species Conservation

► Cranes and agricultural landscape in Bhutan

Jigme Tshering

Geographically endemic to the Qinghai-Tibetan plateau and adjacent southern regions of the Himalayas, the Black-necked Cranes (BNCs) are among the 15 species of cranes found in the world today. Due to their occurrences in very high altitude sites, they are also sometimes known as alpine cranes. They breed above 4,300 meters above sea level in remnant high-altitude alpine wetlands and migrate to lower altitudes to spend their winter. There are three annual phases to the life history of cranes – their winter life, annual migration and summer life. In winter and during migration, the cranes are often social and live in flocks. However, during the breeding periods in spring and

summer, crane families are solitary and drive away all other cranes from their feeding areas, which means they require a large area during these times.

Out of the global population of about 12,000, a small population of about 600 BNCs migrate to several valleys in Bhutan every winter between October and March. There are three main sites in Bhutan: Phobjikha in the west, Bumthang in the central, and Bomdeling in the east, out of which Phobjikha valley hosts the largest crane population in the country.

Black-necked Cranes have a long heritage of cultural and spiritual values. They are revered as holy birds, divine messengers and a symbol of longevity. In Bhutan Black-necked Cranes are revered bird and there are numerous folk tales and songs inspired by the cranes. An annual festival, popularly known as the Black-necked

Crane festival, is being organized every year on 11th November in Phobjikha, and recently in Bomdeling, witnessing by 100s of locals and international tourists.

Domestic crops are the main component of cranes' winter diet. They feed mostly on left-over grains in the harvested fields of paddy, wheat, barley and buckwheat. They also feed on invertebrates, such as insects, earthworms and snails which are crucial for their survival, supporting their fitness by providing more protein and calcium. By feeding on insect pests and gleaning waste grains, cranes provide this ecological service to the farmers.

In Bhutan, only 2.93% of the surface is arable land. This percentage is decreasing annually through urban expansion and abandonment of cultivated land as young people raised on farms move to urban areas. Therefore, efforts to conserve

arable land and to promote healthy agricultural practices are critical both for the welfare of humans and cranes.

The Royal Government has accorded high priority to the protection of the Black-necked Cranes and is listed under Schedule 1 of the Forest and Nature Conservation Rules 2017. RSPN in partnership with the Royal Government and international partners such as ICF have been engaged in the conservation and research of Black-necked Cranes and their habitat since 1987.

In Phobjikha valley, RSPN identified an opportunity to benefit both cranes and humans by promoting developmental activities that aided conservation. The program mainly focused on conserving the crane's winter habitat while economically

empowering the local community through promoting sustainable livelihood approaches.

Bomdeling, which was once the largest wintering habitat, has been observing a consistent decrease in the annual wintering population of Black-necked Cranes since the mid-1990s. This decrease has been attributed to the rapid abandonment of paddy cultivation by the farmers due to many factors such as the flash floods washing away cultivated fields, crop depredation by wildlife and shortage of labor due to rural urban migration.

To encourage farmers to continue farming paddy, RSPN along with the Department of Forests and Park Services and ICF, has initiated the restoration of abandoned and

flood affected paddy fields by providing proper fencing materials, agricultural machinery and training. Till date, we have been able to restore about 10% of the flood affected farms and managed to fence more than 110 acres of rice fields with electric and solar fencing, benefitting 113 households.

The current pandemic has further reminded us all about the importance of keeping the farming practice and more appreciative of our food supply. We all need to continue compensating and encouraging the services that our farmers provide both to the wildlife and us all.

We would like to thank our donors and partners around the globe for being part of this great initiative and hope to receive continued support from you all.



Solar electric fencing of flood affected paddy fields at Bomdeling valley, Trashiyangtse



Black-necked Cranes/Thinley Wangchuk

110

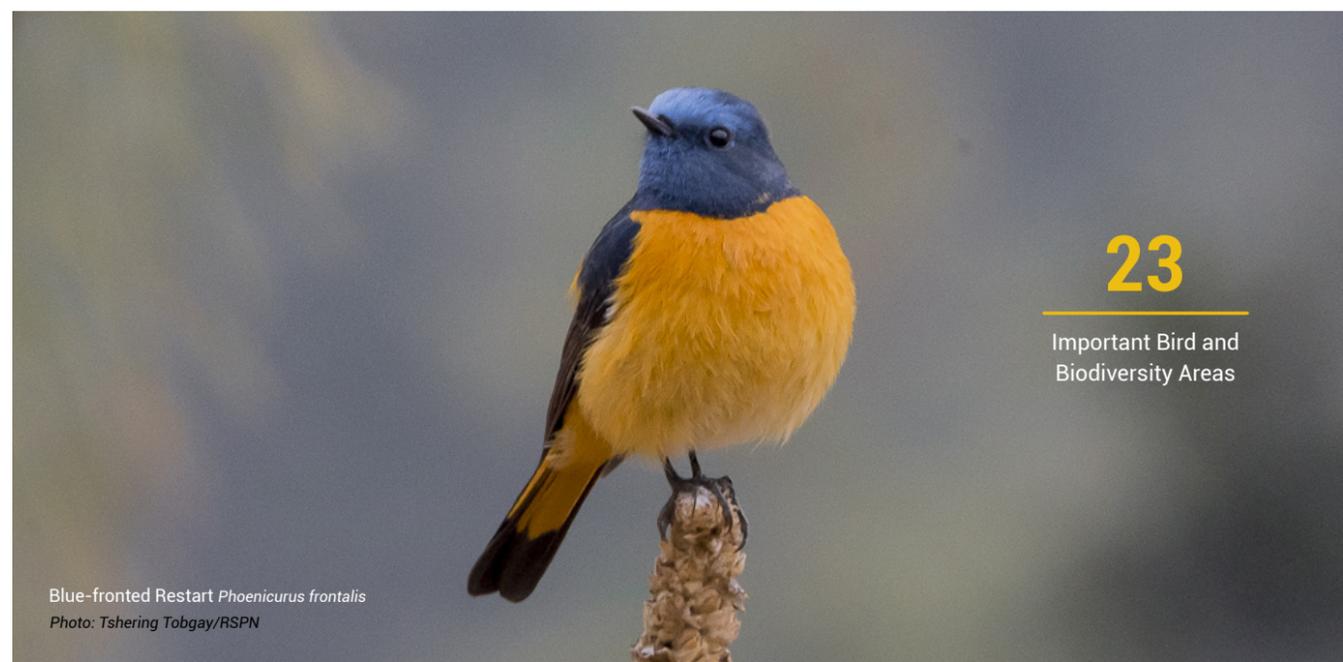
acres of rice fields fenced with electric and solar

10%

of flood affected farms restored

113

households benefitted from electric and solar fencing



Blue-fronted Restart *Phoenicurus frontalis*
Photo: Tshering Tobgay/RSPN

► Bird diversity in Bhutan

Tshering Tobgay

Bhutan is one of the leading examples in the world for the conservation of the environment and it has already become the cusp to set how co-existence of harmony between living beings and the environment can be achieved with the country's developmental philosophy of Gross National Happiness.

Geographically, the country is adorned with mountains that are sliced by the fast-flowing rivers. Except for a few wide valleys in the central part of the country, sloppy hills and lush evergreen forests of the south trend to higher snow-capped mountain ranges and peaks in the north of the country. These geographical landscapes of the country ranging from an elevation of 100m to more than 7000m form favorable ecological conditions for diverse avifauna. The rich bird diversity in Bhutan is evident with a wide distribution of birds in every locality and several recent

new sightings made of bird species. With suitable and intact ecological conditions and most ecosystems being spared from major scale economic developments, the rich birdlife in the country is thriving well. Bhutan's constitutional mandate to conserve and maintain forest coverage is another driving factor.

A country having an area of 38,394 km square today has 23 identified Important Bird and Biodiversity Areas and so far bird species accounted from the country is more than 700 bird species. The species of birds found in the country include both land birds and water birds. Most of the species are residents and breed in Bhutan, while some of the species, mostly water birds and shorebirds found in Bhutan are seasonal visitors and vagrants to Bhutan. The country has also become the last hope for some of the globally threatened bird species of White-bellied Heron *Ardea insignis* and Rufous-necked Hornbill *Aceros nipalensis*.

In the lower foothills of the country, the subtropical zone is consist of evergreen

subtropical forest. These landscapes of foothills are adjoined by narrow strips of plains and valleys. In the urban areas of this region, it is common to sight birds like House Crow *Corvus splendens*, Common Myna *Acridotheres tristis*, Asian-pied Starling *Gracupica contra*, Chestnut-tailed Starling *Sturnia malabarica*, Feral Pigeon *Columba livia*, Eurasian Collared Dove *Streptopelia decaocto*, Spotted Dove *Streptopelia chinensis* and Red-breasted Parakeet *Psittacula alexandri*. Towards the outskirts of the urban areas, there are birds like Indian Peafowl *Pavo cristatus*, Baya Weaver *Ploceus philippinus*, Red-vented Bulbul *Pycnonotus cafer*, Red-whiskered Bulbul *Pycnonotus jocosus*, Rufous-necked Laughingthrush *Garrulax merulinus*, Ashy Woodswallow *Artamus fuscus*, Blue-throated Barbet *Megalaima asiatica*, Lineated Barbet *Megalaima lineata*, Black Drongo *Dicrurus macrocercus*, Rufous Treepie *Dendrocitta vagabunda*, Mountain Imperial Pigeon *Ducula badia* and Pin-tailed Green Pigeon *Treron apicauda*. The floods plain, riverbeds and marshy area usually formed in summer

are good habitats for Greater Thick-knee *Esacus recurvirostris*, Small Pratincole *Glareola lactea*, Sand Lark *Calandrella raytal*, River Lapwing *Vanellus duvaucelii*, Lesser Adjutant *Leptoptilos javanicus*, Lesser Whistling-duck *Dendrocygna javanica*, Watercock *Gallicrex cinerea*, White-breasted Waterhen *Amauornis phoenicurus*, Cattle Egret *Bubulcus ibis* and Little Egret *Egretta garzetta*. The dense forests with high canopy trees are occupied by Great Hornbill *Buceros bicornis*, Wreathed Hornbill *Rhyticeros undulatus*, Oriental Pied Hornbill *Anthracoceros albirostris*, and Orinetal Honey-buzzard *Pernis ptilorhynchus*.

Warm to cool broadleaf forests make the middle temperate zone of Bhutan. In the the lowest elevation of this zone, there are dominance of chir pine forest striped with patches of grassland. Striated Prinia *Prinia crinigera*, Scarlet Minivet *Pericrocotus speciosus*, Grey Treepie *Dendrocitta formosae* and Slender-billed Oriole *Oriolus tenuirostris* frequent in this zone. The landscape in this zone is also very much challenged frequently with forest fires during winter. The landscape elevates, forests consisting of trees like maple, spruce, birch and oak are dominant till 2500m. Most diversity of bird species

in Bhutan are seen in this zone. Species of babblers, warblers, flycatchers, thrushes, parrotbills, blackbirds, doves and woodpeckers harbor in this zone.

Similarly, the globally threatened species like Rufous-necked Hornbill *Aceros nipalensis* and Beautiful nuthatch *Sitta formosa* are seen in the mature forested areas in this zone. The river section falling in this zone also harbors Critically Endangered White-bellied Heron *Ardea insignis* and Endangered Pallas's Fish Eagle *Haliaeetus leucoryphu*. As the river descends along the valleys of this zone, the carried sediments and debris create wide flood banks to inhabit by winter migratory birds to Bhutan. Some of the waterbirds that are migratory to Bhutan such as Great Cormorant *Phalacrocorax carbo*, Ruddy Shelduck *Tadorna ferruginea*, Common Shelduck *Tadorna todorna*, Bar-headed Goose *Anser indicus*, Northern Pintail *Anas gibberifrons*, Goosander *Mergus merganser*, Ferruginous Duck *Aythya nyroca*, Red-crested Pochard *Netta rufina*, Common Pochard *Aythya ferina*, Common Teal *Anas crecca*, Eurasian Wigeon *Anas penelope*, Mallard *Anas platyrhynchos*, Gadwall *Anas strepera*, and Great Crested Grebe *Podiceps cristatus* are common to sight during winter to spring seasons

along the major rivers in this zone. Vagrant birds like Red-necked Phalarope *Phalaropus lobatus* and Mandarin Duck *Aix galericulata* also rarely migrate in the area. Some of the important wetlands recognised as RAMSAR sites; Phobjikha, Khotokha and Bumdeling wetlands are also located in this zone. These wetlands in the country are important wintering ground for Black-necked Crane *Grus nigricollis*, Common Crane *Grus grus* and other bird species. In the Hemlock forest birds like Blood Pheasant *Ithaginis cruentus*, Satyr Trogon *Tragopan satyra*, Alpine Accentor *Prunella collaris* and Collared Grosbeak *Mycerobas affinis* are present. From this range of the treeline, there is a vast dry alpine scrub. It falls under the alpine zone. The scrub is of higher altitude rhododendron species and dwarf willow plants. Bird species like Tibetan Snowcock *Tetraogallus tibetanus*, Snow Partridge *Lerwa lerwa*, Bearded Vulture *Gypaetus barbatus* and Red-fronted Rosefinch *Carpodacus puniceus* are seen in this zone. Ruddy Shelduck are known to breed in some of the alpine lakes. From the alpine zone, it is a permanent snowline area. The bird diversity is also limited to the alpine zone with not much of birds recorded above this zone.



Crimson-browed Finch *Carpodacus subhimachalus*
Photo: Tshering Tobgay/RSPN



Oriental Turtle Dove *Streptopelia orientalis*
Photo: Tshering Tobgay/RSPN

► **The population status**

SHCD Team

WBH Annual Population Survey 2022

The annual, White-bellied Heron (WBH) population survey conducted from 16 - 20, March 2022 accounts for two decades of consecutive surveys conducted since 2003. The survey, usually conducted annually from the last week of February to the first week of March was pushed to a later date this year due to the COVID-19 pandemic. The survey was conducted by more than 95 surveyors from Department of Forests and Park Services, members of Local Conservation Support Groups, and staff of the Royal Society for Protection of Nature. The survey covered major river basins that include the current and potential WBH sites categorized into

zones. The data were gathered using Epicollect5 app that includes information of the observer, GPS coordinates of the sites, date, time, count, activity and major threats to the bird and habitats observed. A total of 23 WBH were recorded during the survey. From this, 21 individuals were observed in the wild and 2 individuals from the WBH conservation center.

Other bird species and wild animals sighted during the survey were also enumerated for record and to understand the diversity and population trend. The survey covered more than 600km of four major river basins in the country and recorded 224 bird species and 20 other wild animals.

[Read Full Report](#)



Photo: RSPN Archive

23

White-bellied Herons recorded during the survey

600

plus kilometers covered in four major river basins



Black-necked Crane count in Bhutan for the winter 2021 - 2022

We are ever grateful to our partners in the field, Forest Division Offices and others, for their participation in the count as well as in maintaining the habitats for the much beloved Black-necked Cranes. The annual count has been conducted since the winter of 1986-1987 to monitor the wintering population trend in Bhutan.

599

Black-necked Cranes wintered in Bhutan (2021 - 2022)

Location	Count
Wangduephodrang	
Phobji - Gangtey	511 (48 juveniles)
Khotokha	6 (2 juveniles)
Bumthang	
Chumey	7 (3 juveniles)
Tang	4 (2 juveniles)
Trashiyangtse	
Bomdeling	70 (3 juveniles)
Lhuntse	
Dungkar	1
Total Count	599 (59 juveniles)

► **Evaluation of nest habitat, site preferences and architecture of the critically endangered White-bellied Heron *Ardea insignis* in Bhutan**

SHCD Team

This research evaluated the nesting habitat, nest-site preferences, and nest architecture of the critically endangered White-bellied Heron *Ardea insignis* in Bhutan. There are fewer than 60 wild birds left in the world, distributed in Bhutan, India, and Myanmar with fewer than five active breeding pairs in Bhutan. From 2003 to 2018, 20 successful and two unsuccessful nests were located from which at least 76 juveniles were expected to have fledged.

The population in Bhutan has remained at 22-30 individuals for the last decade. Site-specific data were collected from 22 nests, and additional vegetation and environmental data were collected from 14 nests and random sites. We used 20-m diameter circular plots to evaluate the site preferences. Ground vegetation, litter and rock cover were evaluated using four 1-m² quadrats in both nest and random sites. Nesting habitat was analysed to compare characteristics of nesting sites to random sites. Our results suggest that the White-bellied Heron builds a simple platform nest within average distance of 74 m from water bodies on the tallest isolated trees at an average height of 18.3 m on an elevated site with a clear overview of surroundings and are sensitive to even slight disturbance. Our results also

suggest that the bird has a preference for an east-facing aspect at an average slope of approximately 40° between the altitudes of 400-1,450 m.

Our observations also suggest that the bird has abandoned all nesting sites used prior to 2015, and the frequency of nest re-use has decreased. Protecting each nest site from hazards, avoiding disturbance, maintaining safe feeding habitats and flight routes are essential to ensure continued breeding in current sites and survival of this population. Further research to better understand the habitat requirements for the White-bellied Heron is vital.

[Read Full Article & Report](#)



Nesting site of White-bellied Heron

► Crane Samten's journey thus far

Jigme Tshering

For the past three winters, we have been following Crane Samten's incredible migration between his summer and winter homes. Samten was tagged with a satellite transmitter in the winter of 2019 in Bomdeling, Trashiyangtse, by researchers from Ugyen Wangchuck Institute of Conservation and Environmental Research (UWICER), as part of our ongoing research on Black-necked Crane ecology.

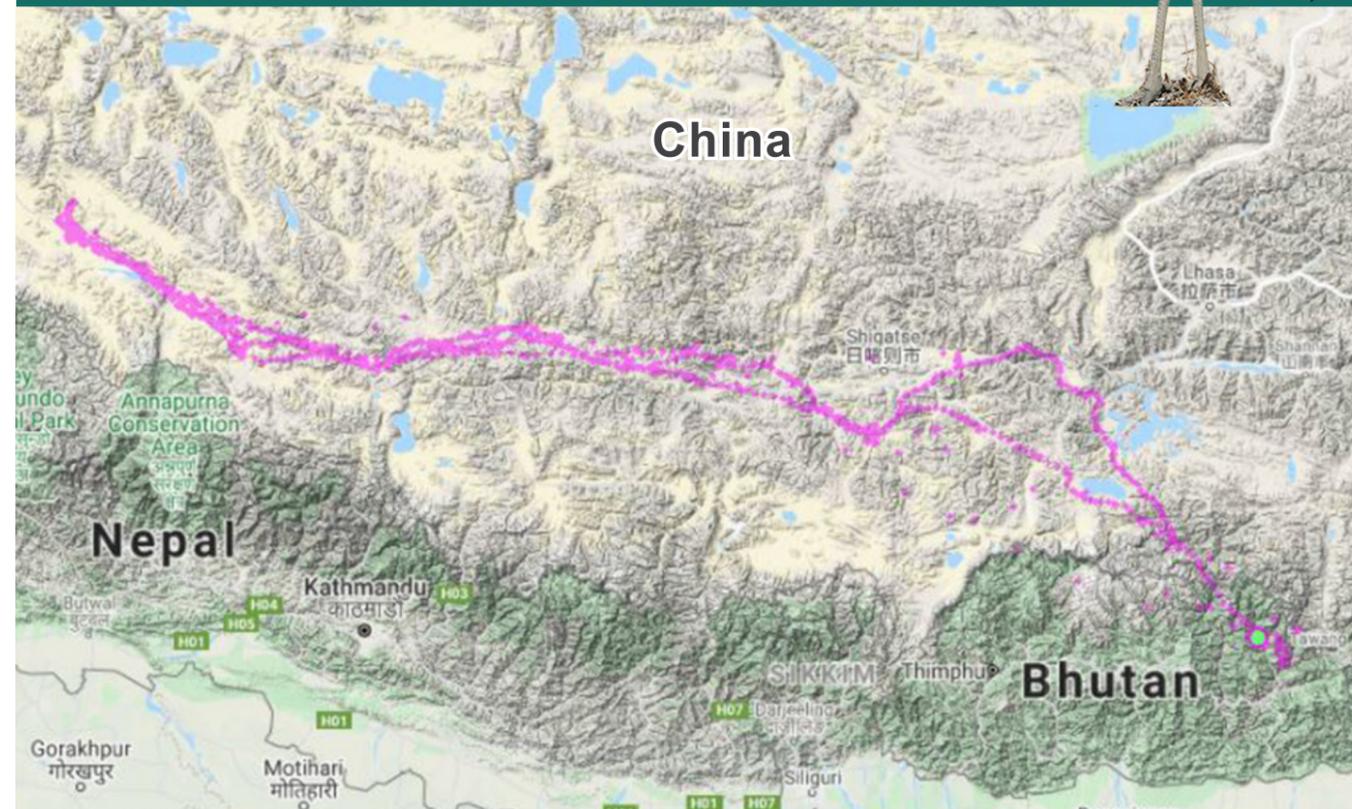
For the 2021 autumn migration, Samten began his journey on October 12, 2021, from his summer home in the wetlands of

Zhongba County in Shigatse, the Tibetan Autonomous Region in China. The wetland is located at about 4500 masl and some 850 kms north-west from Bomdeling, Trashiyangtse. Samten stopped at two sites along his journey to rest and fuel up. On November 17, 2021, Samten flew towards Zemithang in India and spent a night at the bank of Drangmechu river on the Indian side. On November 18, 2021, Samten flew towards Bomdeling and spent the next two and half months in the plains of Khulongchu river and recently restored paddy fields in Bomdeling. On February 15, 2022, Samten left Bomdeling for his summer home and currently is at a stopover site in Tibet, China.

This study is being conducted by RSPN, UWICER, Bomdeling Wildlife Sanctuary, International Crane Foundation, and BirdLife International.



ལྷུང་ལྷུང་ བསམ་གཏམ།
Crane Samten



► I hope to see Thrung Thrung Karmo next winter also

Sangay Dema , Deki Dema & Jigme Tshering

Chorten Tshering, a 14 year old class 7 student, studying at Tshaling Primary School in Trashiyangtse shares his journey of sighting Thrung Thrung Karmo for the first time in his life and wishes to see them every winter

I often heard my family and villagers referring to Thrung Thrung Karmo (Black-necked Crane) as a beautiful majestic bird, describing the bird with broad black and white wings, who would fly over our village, feed on the fields, dance, and sing along brimming joys to everyone's life.

Unfortunately, I never saw one in real life until one cold winter morning I was on my way to school; and a large shadow caught my attention. As I looked up, all the features of Black-necked Crane once described by my elders is truly flying

above. I instantly confirmed myself it is the Thrung Thrung. Even today, I still recall the great day and cherish it.

Now every winter, I wait for the arrival of Thrung Thrung in our fields. When they arrive, I visit the site with my friends and watch their magnificent display. Now I and my friends can easily recognize them in an instant due to their black coloured neck and we all know that is how they got their name.

These birds usually come during the winter months and I see them staying at my village for at least a month. They feed on waste grains and insects in our farmland. I have heard they would sleep by the river banks but I have never been able to see it myself.

My parents and teachers advised me and my friends on the significance of protecting the Thrung Thrungs. These birds are special and rare to spot in the country and can be found only in few of the places in Bhutan (Bumthang, Lhuntse,

Trashiyangtse, and Wangduephodrang). Knowing all these facts, I think it is our responsibility to protect them from dangers like dogs, wild animals, and even from humans as well. I along with my friends advise our younger siblings and friends not to disturb the birds. Instead, together we must watch over them, be their protector and a friend as they would bring us luck in return. We consider them as a sign of good luck and always make a loud noise, saying "Lucky sign" whenever we see them.

Today with support from RSPN, my village has installed electric fences around our paddy field which will protect not only our crops from wild pigs and deers in the summer but the farmlands would provide an ideal foraging site for the Thrung Thrung in the winter. I take pictures and videos of these beautiful birds as I miss them once they fly back. I hope to see these Thrung Thrungs next winter as well.



CHORTEN TSHERING
Tshaling Primary School
Trashiyangtse



Artwork: Featuring Black-necked Cranes in Trashiyangtse/RSPN Archive

► **Black-necked Crane International Symposium (November 8 - 13, 2022)**

The Royal Society for the Protection of Nature (RSPN), NABU International – Foundation for Nature, Crane Conservation Germany, International Crane Foundation (ICF), and Department of Forests and Park Services (DoFPS) are bringing together Black-necked Crane conservationists worldwide to build on past and present conservation initiatives, strengthen collaboration and develop new ideas for cooperation in support of the Black-necked Crane.

The event is supported by the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV). For registration, please contact: rspn@rspnbhutan.org

Save the Dates!



Photo: Black-necked Crane festival at Gangtey monastery/RSPN Archive



► **Annual Black-necked Crane Festival (November 11, 2022)**

The annual Black-necked Crane festival is celebrated annually on November 11, in Gangtey-Phobjikha, the major wintering habitat of this heavenly bird. The festival is one of the greatest events conceived to uphold the importance of conserving the species and its habitat. The festival is an occasion for the locals to rejoice and celebrate the arrival of this vulnerable species which becomes an inseparable part in their daily lives during the winter months.

The annual Black-necked Crane festival is organized to make awareness and understanding on the importance of conserving the Black-necked Cranes. The festival includes cultural programs such as folk songs and dances (some with Black-necked crane themes) and mask dances performed by the local people, crane dances and environmental conservation-themed dramas and songs by school children. One of the attractions of the festival is the Black-necked Crane dance by the school children.

Completed Projects

► **Enhancement of White-bellied Heron Conservation Center**

SHCD Team

With the establishment of key infrastructure required for the captive breeding, a new phase in the conservation and recovery of White-bellied Heron *Ardea insignis* (WBH) has begun. This year, pre-pledged juveniles were collected from a wild nest and transferred to the newly constructed WBH Conservation Center at Chachey Dovan, Tsirang, where the birds will be raised and bred.

The collection of selective birds from the wild will continue until the genetic diversity of the population is expressed in several breeding pairs as it is the only

source of founders for the species. In the future, this tiny captive group will function as breeding stock and perhaps will be a safeguard from extinction and a source of birds for the introduction of herons into safe areas where research indicates herons should thrive. The first phase of the WBH Conservation Center infrastructure; laboratory, fishpond, two aviaries, office, and staff quarters were constructed with support from the Royal Government of Bhutan and the Punatsangchhu Hydroelectric Project Authority (PHPA II & I).

Through the project, "Enhancement of White-bellied Heron Conservation Center", supported by Keidanren Nature Conservation Fund (KNCF), RSPN further put effort in establishing a new veterinary

facility and procured key laboratory equipment, machines, and tools required for the center. The purpose of the WBH Conservation Center is to secure an ex-situ gene pool; rear, raise and breed herons, and supplement the wild population by releasing them into safer habitats. It will also serve as the center for WBH research, a global information hub and coordinate WBH conservation work in the region. The overall long-term goal for the White-bellied Heron conservation breeding and release initiative is to "Conserve the White-bellied Heron habitats and population through the conservation breeding and reintroduction program."

[Read Full Report](#)



White-bellied Heron Conservation Center, Chachey Dovan, Tsirang

► **Solving extreme water shortage and basic sanitation facilities**

Phurpa Dorji

Zamsa, a village of 11 households with a population of 153 is located in the Chukha district. The village people were hit hard with the challenge of drinking water shortage. People there recall having drinking water in their village that was supported by the government in the year 2001. However, due to continuous soil erosion and landslide, the water source has been damaged and left with broken pipelines. To ensure the water flow in the village, farmers on a daily basis took

a routine to maintain the source and the pipelines for the past many years. With not many options, farmers mostly depend on rainwater during the wet season.

Similarly, Phatshuma, another village in the Chukha district was observed with poor hygiene and sanitation maintained. People are mostly using pit toilets without proper means of construction done. The toilet was also constructed far away from the house, which made it difficult for the elderly and kids to use it.

With no interventions in place, the villagers are at risk of serious health hazards, especially the elderly and the

children. RSPN through the "Water and Sanitation" project funded by philanthropist Christopher Hunt had supported 22 households of Zamsa and Kayrayzhing villages, with now adequate drinking water. In Phatshuma village, 26 households were supported with safe sanitation facilities. Commode chairs for sick and aged individuals of the Zamsa community were also supported through this project.

We remain grateful to Mr. Hunt for his thoughtful support of our communities.

[Watch Video](#)



22

households can now have access to adequate drinking water

26

households can now have access to safe sanitation facilities

12

commode chairs donated to sick and age old communities

Inspiring personal responsibility for environmental conservation

► **The trashman shares his journey**

Mr. Gyembo, RSPN member

Having been grown up in a village, going to farm land with my father and helping him always fascinated me from my early age. The sight of tall trees, listening to the chirping of birds, walking among the grasses were the most amazing memories if I may recall. Thus, I have developed a love for nature.

I am a tour guide by profession, a volunteer and also a member to Royal Society for Protection of Nature (RSPN). I had some of the wonderful opportunities working with RSPN. Be it just taking part in a cleaning campaign or any other activities. I am very much inspired by the activities that RSPN undertake.

Today, I consider more of trashman myself. I started this hobby as early as 1998, going around and picking trash. And after becoming a tour guide I initiated picking trash every Saturday from June 27, 2019 and I haven't missed my single Saturday till date except during lockdown where no movement was allowed. Since RSPN does a study on trash collection, I too maintain my record and it has come to about 45,500 kilograms of waste. I have been participating in observing 'Zero waste hour' every 2nd day of the month and have also participated in a series of cleaning campaigns for Chubachu stream initiated by RSPN.

Waste is one growing concern in the country and as a responsible citizen, I will continue to put my foremost efforts to manage waste in the country. I am currently in Mongar, picking up the trash. Starting from June 4, 2022 in honor of Her Majesty The Gyaltsuen's Birth

Anniversary, I have initiated a nation-wide cleaning campaign.

Let me also share with you this very interesting incident that happened a couple of days back. On my way from Samdrupjongkhar to Narphug, my old car broke down. I was alone and helpless. But to my surprise a gentleman approached and asked me, 'Do you work in RSPN?' Quite tired, frustrated and not knowing what to do, I said, 'well, I don't and what would it matter anyways at this time of hour'. 'But you have the RSPN cap on', he responded. He then said, he too is a member of RSPN from his school days. He then helped me to fix the car. I adjusted the looking mirror and the RSPN Cap was visible. With a smile, I drove to my next destination. Tomorrow, the cap would do me some wonders. Wish me good luck.

45,500

Kilograms of waste collected till date



Mr. Gyembo at the Nation-wide cleaning campaign



Become a Member

We have over 2,000 members across the world supporting our conservation works. Keeping our mission at the core, the membership platform is another great way to inspire and get people on board to support our cause. Support us by becoming a member.

[Get Registered Online](#)

Stories from the field: Enhancing the livelihoods of the communities

Meet our farmer friend

Tshering Tobgay

8,000

fingerlings of fish raised

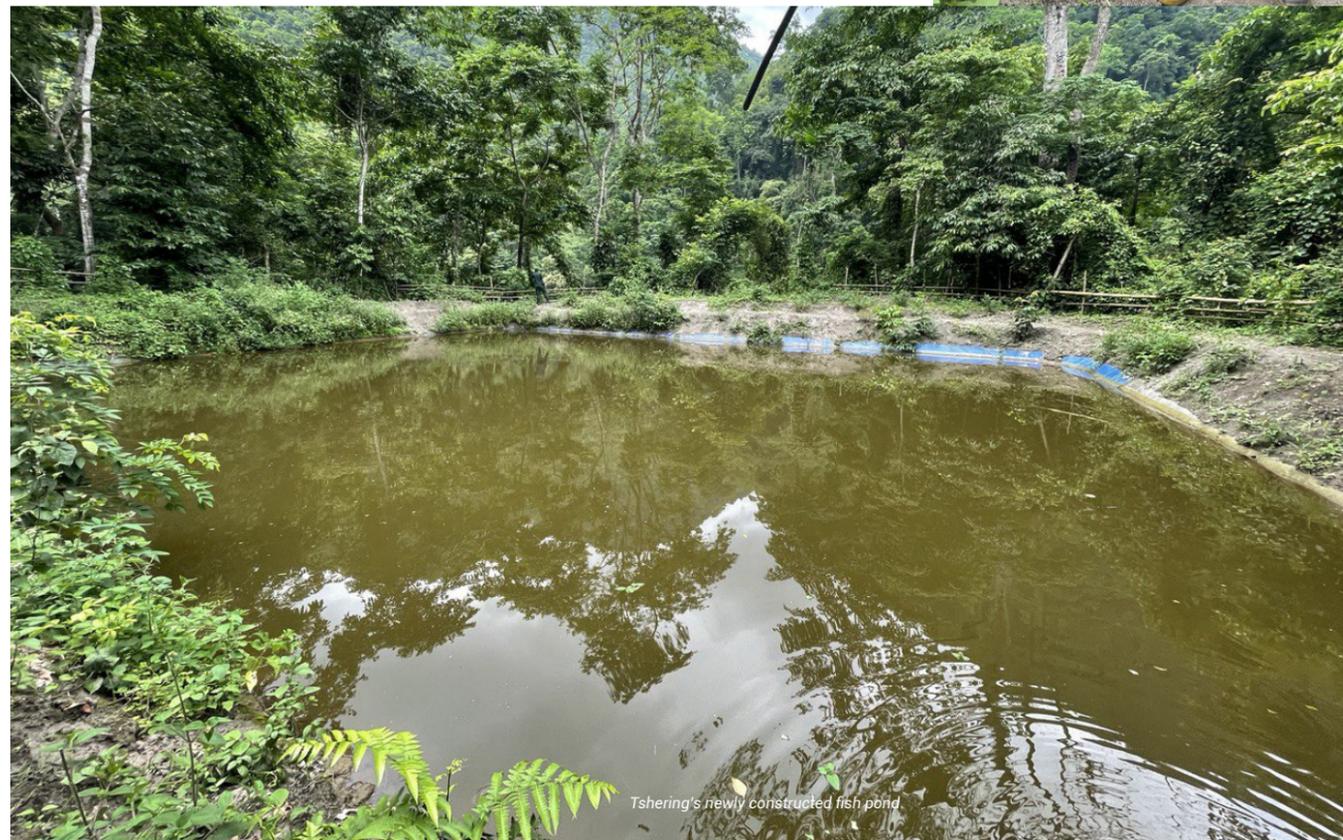
From the usual subsistence farming, now Mr. Tshering Norbu, a 47-year-old farmer from Zhemgang is up for small-scale commercial pisciculture with the fish ponds constructed through the support of RSPN's project in enhancing the conservation of White-bellied Heron (WBH).

Today, he is raising about 8,000 fingerlings of fish and within two to three years, they will be ready for harvesting. He is hopeful to generate an income of close to Nu.2 million through the fish farming business and with the income from

this farming, he wishes to support the educational expenses of his four children. Mr. Tshering is also a member of the Local Conservation Support Group actively helping in conserving WBH. During his free hours, he visits the riverside to watch the WBH, and creating awareness in the community to save WBH is another role he would be taking up.



Tshering Norbu



Tshering's newly constructed fish pond



ABOUT US

RSPN was established in 1987 under the Royal Command of His Majesty The Fourth King of Bhutan as a citizen based Non-Governmental Organization (NGO) devoted to the conservation of the Kingdom's environment.

His Majesty The King was the Royal Patron of RSPN from 1999 to 2012. Her Majesty The Queen of Bhutan is the Royal Patron. RSPN is managed by a seven-Board Directors, the Executive Director is the head of the organization.

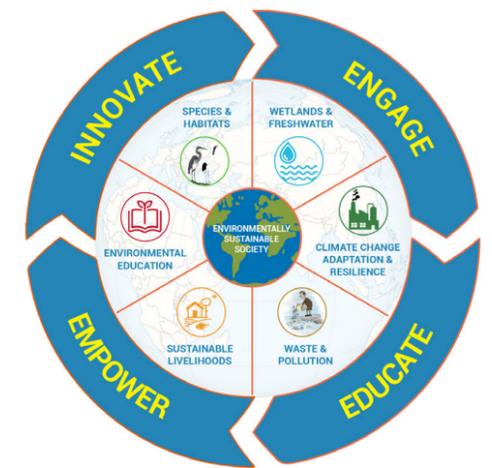
VISION

To be the Leader in conservation ensuring future generations of Bhutan live in an Environmentally Sustainable Society.

MISSION

To inspire personal responsibility and active involvement of people of Bhutan in the conservation of the Kingdom's environment through, Education, Community Engagement and Sustainable Livelihood Opportunities.

WHAT WE DO?



RSPN's Conservation Mandala

The mandala represents our systemic approach and efforts, geared to implement sustainable solutions to emerging environmental challenges through, innovation, citizen engagement, education, and empowerment. The six thematic areas are initiated based on national and international priorities that are aligned to address the Sustainable Development Goals (SDGs).

Using this approach, it affirms our belief and commitment to addressing the global issues which are interdependent in nature to support our goal of an 'Environmentally Sustainable Society'.

Want to Help?

We would love your support!

We are working to enhance conservation and protection of our natural environment and biodiversity through community engagement, providing hope to people and the threatened species.



[Donate Now](#)

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